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- > **Probe Selection and Array Design**
- > **Array Manufacturing**
- > **GeneChip Arrays for Gene Expression Analysis**
- > **GeneChip Arrays for DNA Analysis**
- > **Gene Expression Data Analysis**

GeneChip® arrays enable scientists to attain ambitious goals from identifying genetic variations associated with disease to discovering new drug targets.

Leveraging technologies adapted from the semiconductor industry, the manufacture of GeneChip arrays uses photolithography and solid-phase chemistry to produce arrays containing hundreds of thousands of oligonucleotide probes packed at extremely high densities. The probes are designed to maximize sensitivity, specificity, and reproducibility, allowing consistent discrimination between specific and background signals, and between closely related target sequences.

Attesting to their powerful capabilities, GeneChip arrays are applied in a wide variety of DNA and mRNA analyses. Recent analytical accomplishments include the elucidation of interactions between signaling pathways involved in development, the discovery of a new class of leukemia, and the development of new assays to track drug metabolism.

To learn more about GeneChip technology, please review the following articles:

- > [Probe Selection and Array Design](#)
- > [Array Manufacturing](#)
- > [GeneChip® Arrays for DNA Analysis](#)
- > [GeneChip® Arrays for Gene Expression Analysis](#)
- > [Gene Expression Data Analysis](#)

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